



★ VIRGINIA ★
DEPARTMENT *of* ELECTIONS

the Handbook

the Handbook

Chapter 4 **Voting Equipment and** **Electronic Pollbooks**

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4. Voting Equipment

<p>REQUIRED FORMS</p> <p>Voting Equipment Testing and Preparation Form – ELECT 633</p>	<p>ADDITIONAL RESOURCES</p> <p>EAC’s Logic and Accuracy Testing Pre-Election Logic and Accuracy Testing and Post-Election Audit Initiative</p>
<p>REFERENCES</p> <p>State Certification of Voting Systems Voting Systems Security Policy</p>	<p>REGULATIONS</p> <p>IVAC20-60-50 Overfull Optical Ballot Scanner Container.</p>

4.1 CHAPTER ORGANIZATION

The purpose of this chapter is to provide an overview of important aspects of voting equipment. §4.2 discusses the required state certification of voting systems used for elections in the Commonwealth. §4.3 provides information on voting equipment. §4.5 provides a brief outline to testing the equipment in the logic and accuracy testing each locality must complete prior to Election Day. §4.6 discusses voting equipment security and audits. Lastly, §4.7 outlines certain aspects FOIA that the local electoral board and general registrar should consider surrounding the security of voting systems.

4.2 STATE CERTIFICATION OF VOTING SYSTEMS

The State Board of Elections has established a voting system certification scheme that examines the vendors’ voting systems and the ballots designed to be used with these systems.¹ All voting systems must be approved by the State Board prior to their use in an election and must be tested in an actual or mock election in one or more counties or cities.² A governing body cannot adopt the use of any voting system and ballot that has not been approved by the State Board.

Modification to an existing voting system which has been previously certified will, in general, invalidate the results of the prior certification unless and until it can be determined by the State Board of Elections that the change does not affect the overall flow of program control or the manner in which ballots are interpreted and the vote data are processed. No change of any kind can be made to any voting system software or firmware unless the Department of Elections has been informed of the proposed change and determined whether or not it will require recertification of the system.

Should a previously approved voting system be shown to no longer comply with the standards adopted by the State Board or be shown to have critical software or hardware issues the Board, at its discretion, may decertify the voting system.³

¹ See Code of Virginia [§24.2-629](#).

² *Id.*

³ See Code of Virginia [§24.2-629](#).



The State Board of Elections has determined that Direct Recording Electronic (DRE) Systems no longer provide the security needed to ensure protection from third-party interference; thus, these systems were and remain decertified and prohibited from use in any election taking place in the Commonwealth.

House Bill 1053 from the 2020 General Assembly session added an additional requirement that voting systems must meet to obtain certification in Virginia. Voting systems must be capable of retaining and printing each ballot cast, in order for it to receive State Board approval for certification.⁴

4.3 STATE CERTIFICATION OF ELECTRONIC POLLBOOKS

The State Board of Elections has established an electronic pollbook certification scheme that provides a formal and organized process for vendors to follow when seeking state certification for an electronic pollbook (EPB) system in Virginia.

Any modification to the hardware, software, firmware, infrastructure, or any component of a certified EPB will invalidate the prior certification unless ELECT can review and provide an assurance to the SBE that the change does not affect the accuracy, reliability, security, usability, or accessibility of the system.

ELECT reserves the right to examine any previously certified EPB system for any reason at any time. Any EPB system that does not pass certification testing will be decertified. An EPB system that has been decertified by the State Board of Elections cannot be used for elections held in Virginia and cannot be purchased by localities to conduct elections.

4.4 VOTING EQUIPMENT



An **optical ballot scanning machine** counts marks made on paper by the voter. The tool used to make these marks is called the marking device. A polling place typically needs one optical ballot scanning machine for proper voting operation with certain exceptions for presidential elections.⁵

All localities are required to use a voting system at every precinct and for all elections held in the county, the city, or any part of the county or city as per Virginia Code §24.2-626. While choosing a voting and counting system is at the discretion of the local electoral board, the systems chosen must be from the State Board of Elections' approved vendor and system list.

⁴ See Code of Virginia [§24.2-629](#).

⁵ See Code of Virginia [§24.2-627](#).



Localities may also experiment with new voting systems in one or more precincts.⁶ A new system may be one that has already been certified for use by the Department of Elections, or it may be one that is still in the testing stage. In either case, the electoral board must have approval from the State Board of Elections for experimental use of election equipment.⁷

4.4.1 Purchasing Equipment

The governing body of each county and city is responsible for purchasing the voting machines that have been approved by the State Board.⁸ For contracting purposes, the Department of Elections may negotiate a government rate for procuring machines; however, a local governing body is not required to use these contracts and should refer to local procurement procedures.

4.4.2 Number of Voting Machines Required



Each precinct is required to deploy a minimum number of ballot scanner machines based on the number of registered voters in the precinct.⁹ In determining the number of registered voters, absentee voters may be excluded.¹⁰ As previously mentioned, DREs are no longer permitted for use in elections in the Commonwealth. The number of ballot scanner machines required for an election is significantly lower than the required number for DREs previously set in code.

- Each precinct must have at least one voting booth with a marking device for each 425 registered voters and provide for each precinct at least one scanner.¹¹
- During a presidential election, a precinct with more than 4,000 registered voters will be required to have two ballot scanning machines. This requirement may change if the governing body of the county or city, in consultation with the general registrar and local electoral board, determines a second ballot scanning machine is unnecessary.¹²

4.4.3 Maintaining Digital Ballot Images

If your locality's voting system creates digital ballot images, these records must be maintained with the Clerk of the Circuit Court for twenty-two months pursuant to 52 U.S.C. § 20701. A locality may choose to transfer these records from the original data storage device to another device to ensure compliance with federal law. Any locality choosing to transfer records to another device should ensure proper transfer prior to sealing the records. To complete these processes, you should work closely with your vendor.

⁶ See Code of Virginia [§24.2-630](#).

⁷ See Code of Virginia [§24.2-630](#).

⁸ See Code of Virginia [§24.2-626](#).

⁹ See Code of Virginia [§24.2-627](#).

¹⁰ *Id.*

¹¹ See Code of Virginia [§24.2-627](#).

¹² *Id.*



4.5 CUSTODIANS

The voting equipment custodian is an individual identified by the electoral board or the general registrar to oversee the programming, configuration and testing of voting systems in the locality.¹³ The custodian programs and prepares voting and counting equipment and is charged with overseeing and instructing the vendor technician in programming, testing, calibrating, and delivery of the equipment.¹⁴

The electoral board and general registrar are responsible for choosing a custodian and are required to appoint an individual to this position at least 30 days before each election. Any individual within this position must sign an oath prior to taking the position.¹⁵

The electoral board may assign a board member or deputy registrar to serve without pay as a custodian; however, if the presence of a board member and the custodian is required, the same individual is prohibited from serving in both positions.¹⁶

With the approval of the Department of Elections, the electoral board or general registrar may contract with the voting equipment vendor or another contractor for the purpose of programming, preparing and maintaining the voting equipment. The voting equipment custodians shall instruct and supervise the vendor or contractor technicians and oversee the programming, testing, calibrating and delivering of the equipment. The vendor or contractor technicians shall be sworn to perform their duties honestly and faithfully.¹⁷

4.6 LOGIC AND ACCURACY TESTING

Logic and accuracy testing is an integral part of preparing for an election. Each machine and electronic poll book (not a sampling of machines) that will be used in an election must be tested prior to that election to ensure it has been programmed correctly and is functioning properly. The logic and accuracy test for voting machines will also uncover any ballot printing or coding issues that may affect accurate and complete tabulation.

Before the logic and accuracy testing of voting machines for any election, the general registrar must provide a written notice to the chairman of the local committee of each political party, or for an election in which no candidate is a party nominee and which is held when no other election having party nominees is being conducted, to the candidates.¹⁸

The notice must provide the time and place where the machines will be tested and state that the political party or candidate receiving the notice may have one representative present while the equipment is tested. The representatives must be given an opportunity to see that the

¹³ See Code of Virginia [§24.2-632](#).

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ See Code of Virginia [§24.2-633](#).



equipment is in proper condition for use at the election and that machines are properly sealed after testing.¹⁹

Each machine should be tested with a sufficient number of ballots or votes to substantiate that each machine recorded the correct number of votes for each candidate. An electoral board member, general registrar, or a designated representative, must be present during this process and must certify the results from each machine.²⁰ A representative should be used only if it is impracticable for a board member or the general registrar to be present.²¹ This representative cannot be the custodian or a vendor or contractor technician who was responsible for programming the ballot software, electronic activation devices, or electronic storage media.

Form ELECT-633 must be submitted electronically to the Department of Elections after logic and accuracy testing is complete for the voting machines.

Per Virginia Administrative Code, electronic poll books must be tested by 12:00 pm on the day before the election and testing must be certified to ELECT. EPBs must be tested to ensure the proper election (or elections in the case of a dual primary) is loaded, the applicable voter registration files were downloaded so that all absentee ballot information is present, and that all precincts show the correct ballot style(s) for voters in the precinct.

Unlike logic and accuracy testing for voting machines, testing of EPBs does not prohibit or require notice to be sent to the chairman of the local committee of each political party.

F.A.Q

Can a candidate or her representative request to attend the L&A testing of voting machines?

Yes. The general registrar of each locality may exercise discretion in considering whether to grant a candidate's request to attend the testing. If the general registrar permits the requesting candidate to attend the testing, she/he must, as soon as reasonably possible, contact all other candidates for that office to provide an equal opportunity.

Can a general registrar proactively provide notice of the L&A testing to all candidates?

The general registrar must provide equal notice to all candidates or their representatives if they choose to do this. For example, a general registrar should not provide notice to some candidates by telephone, and notice by mail to others.

¹⁹ *Id.*

²⁰ *Id.*

²¹ See Code of Virginia [§24.2-632](#). See [2006 Va. Atty. Gen. Op. \(9.15.06 to Jensen\)](#) (“practicable” means “reasonably capable of being accomplished; feasible”).



Logic and accuracy testing for electronic pollbooks is recommended and would uncover issues with the data files or the setup for the elections that may affect the ability to check in voters. Performing the logic and accuracy test on pollbooks will assist in discovering any issues which could cause minor or major issues on Election Day.

Electronic pollbooks should be tested with the real data files of the election to verify that each precinct is present, correct ballot styles are assigned to several voters across party lines and password-protected access is in place according to the designated roles at the polling locations.

4.7 VOTING EQUIPMENT SECURITY

The electoral board or the general registrar of each locality must develop and annually update written plans and procedures to ensure the security and integrity of its electronic voting system.²² The local electoral board is responsible for the security of all voting systems, including electronic pollbooks and Ballot on-Demand (BOD) printers. The State requires each locality to develop a written security plan and review the plan annually. A cover letter signed by the electoral board and general registrar must be submitted annually as directed by the Department of Elections confirming the review and update of the plans.

4.7.1 Voting System Audit



Va. Code §24.2-671.2 requires the Department of Elections to coordinate an annual post-election risk-limiting audit of ballot scanner machines, which will be performed by the localities and supervised by the Department. The purpose of the audit is to study the accuracy of ballot scanner machines.²³ Risk-limiting audits shall be performed by the local electoral boards and general registrars under the supervision of the Department and in accordance with the procedures prescribed by the State Board of Elections.

This audit will be conducted annually with a certain number of localities chosen at random. The Department shall provide that the following risk-limiting audits be conducted:

- In the year of a general election for members of the United States House of Representatives, a risk-limiting audit of at least one randomly selected contested race for such office;
- In the year of a general election for members of the General Assembly, a risk-limiting audit of at least one randomly selected contested race for such office;
- In any year in which there is not a general election for a statewide office, a risk-limiting audit of at least one randomly selected contested race for a local office, including constitutional offices, for which certification by the State Board is required under § [24.2-680](#); and
- In any year, any other risk-limiting audit of a contested race that is necessary to ensure that each locality participates in a risk-limiting audit of an office within its jurisdiction at least

²² See Code of Virginia [§24.2-625.1](#).

²³ See Code of Virginia [§24.2-671.2](#)



once every five years or that the State Board finds appropriate. Such audits must be approved by at least a two-thirds majority vote of all members of the Board.

At the conclusion of each risk-limiting audit requiring certification by the State Board, the Department shall submit to the State Board a report, which shall include all data generated by the risk-limiting audit and all information required to confirm that the risk-limiting audit was conducted in accordance with the procedures adopted by the State Board. The Department shall publish the results of all risk-limiting audits pursuant to this section on the Department's website.²⁴

4.8 VIRGINIA FREEDOM OF INFORMATION ACT (FOIA) CONSIDERATIONS

There are limited exemptions from VFOIA public meeting and records disclosure requirements for voting equipment security issues.

For reference, please be aware that “records of the Department of Elections or of a local electoral board, to the extent such records describe protocols for maintaining the security of ballots or voting and counting equipment, or reveal the results of risk assessments of specific local electoral procedures, the release of which would compromise the security of any election, shall be confidential and excluded from inspection and copying under the Virginia Freedom of Information Act (FOIA).”²⁵

An electoral board of the State Board of Elections may close a meeting to discuss security protocols and conduct security compliance site visits preceded and followed by open meetings about the visits.²⁶ Records describing security protocols or specific risk assessments that could compromise election security if released are exempt from disclosure.

²⁴ See Code of Virginia [§24.2-671.2](#)

²⁵ See Code of Virginia [§24.2-625.1](#).

²⁶ *Id.*

